

## Practical 1\rpc\_server.py

```
1 from xmlrpc.server import SimpleXMLRPCServer
2 import threading
3 import logging
4
5 # Configure logging
6 logging.basicConfig(filename="rpc_server.log", level=logging.INFO, format="%(asctime)s - %
7 (message)s")
8
9 # Function to compute factorial iteratively
10 def factorial(n):
11     try:
12         if not isinstance(n, int) or n < 0:
13             raise ValueError("Input must be a non-negative integer")
14
15         result = 1
16         for i in range(2, n + 1):
17             result *= i
18
19         logging.info(f"Computed factorial({n}) = {result}")
20         return result
21     except Exception as e:
22         logging.error(f"Error computing factorial({n}): {str(e)}")
23         return str(e)
24
25 # Function to run the server
26 def start_server():
27     with SimpleXMLRPCServer(("localhost", 8000), allow_none=True) as server:
28         server.register_function(factorial, "factorial")
29         print("RPC Server is running on port 8000...")
30         server.serve_forever()
31
32 # Run the server in a separate thread
33 server_thread = threading.Thread(target=start_server, daemon=True)
34 server_thread.start()
35
36 # Keep the script running
37 while True:
38     pass
```